Name: Due Date: Teacher: Parent Sign:

1. Given the table: x: 1, 2, 3, 4, 5; y: 2, 3, 3, 5, 6. Construct a scatter plot and state whether the correlation appears positive, negative, or none.

2. Plot the points: (0, 1), (1, 2), (2, 4), (3, 5), (4, 7). Construct a scatter plot and describe the trend.

3. Table: x (hours studied): 0, 1, 2, 3, 4; y (quiz score out of 10): 2, 3, 5, 7, 8. Construct a scatter plot and state the correlation.

4. Plot the points: (-2, 4), (-1, 2), (0, 0), (1, -1), (2, -4). Construct a scatter plot and state whether correlation is positive, negative, or none.

5. Given data: x (age of tree in years): 1, 3, 5, 7, 9; y (height in meters): 0.8, 2.4, 4.1, 5.9, 7.2. Construct a scatter plot and describe the general pattern.

6. Points: (1, 10), (2, 9), (3, 8), (4, 6), (5, 5). Construct a scatter plot and state the correlation.

7. Table: x (days): 1, 2, 3, 4, 5, 6; y (number of visitors): 50, 55, 60, 62, 80, 58. Construct a scatter plot and say whether there is a trend or a possible outlier.

8. Plot these pairs: (10, 100), (20, 200), (30, 290), (40, 400), (50, 490). Construct a scatter plot and state the relationship between x and y.

9. Data on students: x (number of hours of sleep): 5, 6, 7, 8, 9; y (reaction time in seconds): 0.9, 0.8, 0.7, 0.6, 0.5. Construct a scatter plot and describe the correlation.

10. Points: (0, 0), (1, 3), (2, 6), (3, 9), (4, 12). Construct a scatter plot and identify whether a straight line would fit well.

11. A small shop records daily sales (in $)and number of customers: $(10 customers, 100)$, (20, 200), (30, 305), (40, 390), (50, 495). Construct a scatter plot. Is the relationship linear? Describe any deviations.

12. A class records students' heights (in cm) and arm spans (in cm): (140, 141), (150, 149), (160, 161), (170, 171), (180, 182). Construct the scatter plot and state if arm span and height are positively correlated.

13. You measure time spent on homework (hours) and number of problems completed: (0.5, 3), (1, 6), (1.5, 9), (2, 13), (2.5, 15). Construct a scatter plot and say whether the points show a roughly linear trend.

14. A farmer records fertilizer amount (kg) and crop yield (kg): (0, 10), (1, 15), (2, 22), (3, 30), (4, 35). Construct a scatter plot and describe the trend.

15. Choose an appropriate scale and draw axes for plotting these pairs: (x: 0-24 hours, y: temperature 10-35 degC) with points (0, 12), (6, 15), (12, 25), (18, 22), (24, 14). Plot and describe trend over the day.

16. A survey records number of practice hours per week and match wins for a sports team: (1, 0), (2, 1), (3, 3), (4, 4), (5, 5). Construct a scatter plot and describe correlation.

17. Points: (2, 5), (3, 6), (4, 9), (5, 10), (6, 12). Construct scatter plot and estimate whether adding a point at (4, 20) would be an outlier.

18. The table gives x: 1, 2, 3, 4, 5; y: 7, 5, 6, 4, 3. Construct a scatter plot and describe correlation and strength.

19. Plot the points: (0, 8), (1, 7), (2, 6), (3, 5), (4, 4). Construct the scatter plot and say whether the relationship is linear and negative.

20. A school measures students' shoe size and running speed (lower is faster): (shoe 4, 12.5s), (5, 11.9s), (6, 11.2s), (7, 10.8s), (8, 10.5s). Construct a scatter plot and describe correlation.

21. Given data: x (weeks practicing): 0, 1, 2, 3, 4; y (number of correctly played songs): 0, 1, 3, 5, 6. Construct a scatter plot, draw a reasonable line of best fit by eye, and use it to predict number of songs after 5 weeks.

22. Table: x (number of practice free throws): 0, 10, 20, 30, 40; y (successes): 0, 3, 9, 15, 18. Construct scatter plot and find the approximate slope between (10,3) and (30,15). What does the slope mean?

23. Plot: (1, 3), (2, 3), (3, 3), (4, 3), (5, 3). Construct scatter plot and describe correlation.

24. A weather station records hours of sunshine and number of ice cream cones sold: (0, 10), (2, 25), (4, 40), (6, 55), (8, 70). Construct a scatter plot and explain whether points show strong or weak correlation.

25. A student records number of pages read per day and comprehension score: (5, 60), (10, 65), (15, 70), (20, 78), (25, 90). Construct a scatter plot and state whether relationship looks linear.

26. Choose a suitable scale and label axes for plotting x values 0-200 and y values 0-50. Explain why you chose that scale. (Do not plot any points – just show scales.)

27. Convert the following table into ordered pairs and construct the scatter plot: (temperature degC, number of birds spotted): (5, 2), (10, 4), (15, 7), (20, 11), (25, 14). State the correlation.

28. Data: x: 1, 2, 3, 4, 5, y: 10, 9, 8, 7, 6. Construct scatter plot and determine whether a negative linear trend is present.

29. Given points: (2, 3), (4, 7), (6, 11), (8, 15). Construct scatter plot and find the slope of the line that goes through all points. Is the fit exact?

30. A research table: x (distance from school in km): 1, 2, 3, 4, 5; y (time to walk in minutes): 10, 20, 30, 40, 50. Construct scatter plot and determine correlation and slope.

31. Given these data points for students' age (x) and number of books read per month (y): (12, 2), (13, 3), (14, 4), (15, 4), (16, 5). Construct the scatter plot and estimate a prediction for a 17-year-old using a line of best fit by eye.

32. For the points (1, 2), (2, 5), (3, 7), (4, 10), (5, 13): plot them and find the approximate slope between (1,2) and (5,13). Use that slope to write an approximate linear rule y = mx + b.

33. Plot these paired values: (0, 100), (1, 90), (2, 80), (3, 70), (4, 60). Construct scatter plot and state slope and correlation.

34. A dataset: x (number of practice minutes): 10, 20, 30, 40, 50; y (score): 20, 35, 45, 55, 60. Construct scatter plot, draw a best fit line, and use it to predict score at 25 minutes.

35. Given points: (1, 1), (2, 4), (3, 9), (4, 16). Construct scatter plot and state whether a straight-line fit is appropriate.

36. A bakery records number of loaves baked and number sold: (20, 18), (30, 28), (40, 35), (50, 40), (60, 55). Construct scatter plot and say if there is a positive correlation and whether it is strong.

37. Plot the data: x: 1, 2, 3, 4, 5; y: 2, 8, 18, 32, 50. Construct scatter plot and comment on whether the relationship is linear or curves upward.

38. Points: (0, 5), (1, 7), (2, 6), (3, 9), (4, 8), (5, 30). Construct a scatter plot and identify any outlier(s). Explain how an outlier might affect the line of best fit.

39. Given the table: x: 1, 3, 5, 7, 9; y: 2, 6, 10, 14, 18. Construct scatter plot, determine slope and line equation if points are exact.

40. A company tracks advertising spend ($hundreds$) $and sales$(thousands): (1, 3), (2, 6), (3, 8), (4, 12), (5, 15). Construct scatter plot and describe correlation and approximate slope.

41. Create a scatter plot for these points: (2, 2), (3, 4), (4, 6), (5, 5), (6, 7). Identify any points that do not fit the general pattern and label them as possible outliers.

42. Table: x: 0, 2, 4, 6, 8; y: 5, 6, 8, 11, 15. Construct scatter plot, estimate a line of best fit by eye, and use it to estimate y when x = 5.

43. Points for a science experiment: (temperature degC, reaction rate): (10, 2), (20, 5), (30, 9), (40, 12), (50, 15). Construct scatter plot and state whether the relationship is roughly linear or not.

44. For data: x: 1, 2, 3, 4, 5; y: 4, 6, 6, 7, 9. Construct scatter plot and determine whether correlation is strong, moderate, weak, or none.

45. Plot these points: (10, 1), (20, 2), (30, 3), (40, 3), (50, 5). Construct scatter plot and discuss any plateau or leveling in the data.

46. Convert the following survey data into ordered pairs and plot: (hours of video game per day, homework grade out of 100): (0, 95), (1, 90), (2, 85), (3, 70), (4, 60). Describe the correlation and identify any steep change.

47. Given pairs: (x, y): (1, 2), (2, 4), (3, 6), (4, 8), (5, 10). Construct a scatter plot and state what type of line will pass through these points.

48. A small data set: x: 0, 1, 2, 3; y: 3, 3, 2, 2. Construct scatter plot and say whether there is a clear correlation.

49. Use these measurements (minutes of warm-up, number of errors made): (0, 10), (5, 8), (10, 6), (15, 4), (20, 2). Construct scatter plot and describe correlation and whether it is linear.

50. Create a scatter plot for the following points and estimate the y-value when x = 7 using a best-fit line by eye: (1, 5), (3, 9), (5, 13), (7, ?), (9, 21). (Hint: use pattern from the given points.)